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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,178	02/12/2002	Morgan T. Johnson	51064.P003	8972

7590 01/20/2004

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EXAMINER

DEO, DUY VU NGUYEN

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/076,178

Applicant(s)

JOHNSON, MORGAN T.

Examiner

DuyVu n Deo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-14,23-32 and 34 is/are allowed.
- 6) ☒ Claim(s) 2,16-18 and 33 is/are rejected.
- 7) ☒ Claim(s) 15 and 19-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) filed
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

10/8/02 & 1/7/03

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 16, 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Owen et al. (US 5,593,606).

Owen describes a method for making an electrical structure comprising: providing dielectric layers 66 and 70 (claimed insulating substrate) having a first and second major surface opposite each other, with a layer of metal 64 disposed on the first major surface (col. 4, line 55-col. 5, line 5); removing by laser etching at least a portion of the metal layer to form at least one trace and one space adjacent thereto (col. 5, line 14-17; figure 2). Figure 2 shows the height/width ratio of the space is greater than the height/width ratio of the trace.

Referring to claims 18 and 19, the height of the copper metal or the conductive trace is ranged from 9-72 um (col. 4, line 59, 60) and width of the space is ranged from 5-300 um (col. 5, line 22-24). This would have a height/width ratio range of 0.03-14.4, which would include those in the claimed 0.75-50 ratios.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 2 recites the limitation "cutting the at least one alignment hole; cutting at least one folding line" in line 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

5. Claim 33 recites the limitation "the at least one graphical symbol" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Objections

6. Claim 15 is objected to because of the following informalities: the limitation "removing a portion of a passivation layer disposed the copper" is unclear. It is suggested to add "on" after "disposed". Appropriate correction is required.

Allowable Subject Matter

7. Claims 1, 3-14 and 23-32, 34 allowed over prior art because applied prior art, Owen, doesn't teach or suggest forming the fiducial, removing portions of the conductive material, etching the alignment hole, etching folding line, and singulating the electrical structure or space transformer are all performed within the first laser processing system or pulsed laser etching system.

Claims 19-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 19-22 are allowable because applied prior art doesn't suggest the method further comprising forming fiducial, alignment hole without removing the

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substrate from the first laser etching system, and without realigning the substrate within the first laser etching system.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DuyVu n Deo whose telephone number is 571-272-1462.

DVD
1/12/04

Qe